REMARKS

Applicants have thoroughly considered the Examiner's remarks and the application has been amended in light thereof. Claims 56-67 are presented for further examination. Claims 56, 58, 60-62, and 64-67 have been amended by this Amendment A. Reconsideration of the application claims in view of the amendments and the following remarks is respectfully requested.

Each of the Examiner's rejections will be addressed in order as presented in the Office action.

Claim Rejections under 35 U.S.C. Section 101

Claims 65-67 stand rejected under Section 101 for being directed to non-statutory subject matter. The Examiner states that the claims recite that the body elements are located between the fluoroscopic tube and the fluoroscopic plate thereby positively reciting human body parts as part of the claimed invention. Claim 65 has been amended to recite "a fluoroscopic tube in fixed relation to a fluoroscopic plate adapted so that one or more body elements may be positioned therebetween . . . " As such, claim 65 no longer positively recites a human body part, and the rejection to claim 65 in this regard should be withdrawn. Furthermore, claims 66 and 67 depend from claim 65 and the rejections to these claims should also be withdrawn due to their dependencies.

Nonstatutory Double Patenting

Claims 56-67 stand rejected under four judicially created doctrine of nonstatutory obviousness-type double patenting rejections in view of three related issued patents and one related patent application.

While Applicants do not agree that claims 56-67 are obvious in view of the claims of U.S. Patent No. 6,236,875, Applicants elect to file a Terminal Disclaimer with regard to U.S. Patent No. 6,236,875, on behalf of Surgical Navigation Technologies, Inc. and Saint Louis University (co-owners of this application) in compliance with 37 C.F.R. 1.321(c). The Terminal Disclaimer and the associated fees are enclosed with this response.

However, the nonstatutory double patenting rejections with regard to U.S. Patent No. 6,347,240, claims 1-55, U.S. Patent No. 6,434,415, claims 1-25, and U.S. Patent Application No. 10/198,324, claims 1-68 are inappropriate as claims 56-67 recite aspects that are patentably distinct and not obvious variations of the claims of '240, '415, and '324.

As an initial matter, '240, '415, and '324 are each based on and claim priority to U.S. Patent Application 07/600,753 filed on October 19, 1990. In contrast, the present application claims priority to a continuation-in-part U.S. Patent Application No. 08/319,615, which was filed on October 7, 1994, now abandoned. As the present patent application does not claim priority to the 1990 patent application, a double patenting rejection is not appropriate.

The Examiner generally indicated that claims 56-67 were obvious in view of the claims of the '240, '415, and '324 but not address each and every aspect of each and every claim as required to support an obvious-type double patenting. However, in order to support the inappropriateness of these rejections, Applicants will briefly address examples of aspects of 56-67 claims that are patentably distinct from and not obvious variations of the claims of '240, '415, and '324.

Amended claims 56, 58, 60, 61, 62, and 64 recite that "a relative position between the reference points of a semi-rigid body element being variable." In general, the current claims identify the relative position of the reference points for the semi-rigid element, relate the relative position of the reference points during the procedure to the relative position of the reference points in the image data set, and modify the image data set based on the relative position of the variable reference points during the procedure to the relative position of the reference points in the image data set. This aspect of the claims is not recited by the claims of '240, '415, and '324. As such, claims 56-67 are patentably distinct from the claims of '240, '415, and '324

With regard to '240, claims 56-67 recite different aspects than claims 1-55 of '240. The current claims recite the relative position of reference points of a semi-rigid body element. This is different than the claims of '240 that recite representing, modifying, and illustrating the relative position of two or more body elements relative to each other.

Additionally, the current claims recite the relative position between two or more reference points of a semi-rigid body element is variable. This is different than the claims of '240 that generally recite reference points of a particular body element that have a known spatial relation to the data points of the particular body element. The current claims also recite modifying the image data set based on relating the relative position of the reference points of a body element during a procedure to the position of the same reference points for the same body element prior to the procedure. This is different than the claims of '240 that generally recite modifying the spatial relationship of the data points of one body element relative to the data points of another body element. Finally, claims 56-67 recite determining and illustrating the geometry of a body element which is different than the claims of '240 that recite determining and illustrating the position of one body element relative to another body element.

With regard to '415, current claims 56-67 recite different aspects than claims 1-25 of '415. For instance, the current claims recite determining and displaying the geometry of a semi-rigid body element that is different than determining and displaying the relative positions of a plurality of body elements as recited by the claims of '415. The current claims recite a semi-rigid body element wherein a relative position between the reference points of the body element is variable. This is different than the claims of '415 that generally recite that the reference points for each particular body element has a known or fixed position relative to the data points of the particular body element. Also the current claims recite identifying the relative position of each reference point on a body element which is different than identifying or determining the position of the reference points of each body element relative to the reference points of the other body elements as recited by the claims of '415. Further, the present claims recite modifying the image data set representing a semi-rigid body element based on the relative position of the reference points of the body element intra-procedurally and pre-procedurally. This is different than the claims of '415 that recite modifying the spatial relationship of the data points of one body element relative to the data points of another body element.

With regard to '324, current claims 56-67 recite different aspects than claims 1-68 of '324. The current claims recite determining and displaying the geometry of the body elements. In contrast, claims 17, 43, and 57 of '324 recite determining and displaying the

position or the relative position of the one or more body elements. Claims 56-67 recite that a relative position between two or more reference points of a body element are variable. In contrast, claims 17 and 57 of '324 recite the position of the reference points of a particular body element relative to the data points for the same body element are known. The current claims recite modifying according the relative position of the reference points during the procedure to the relative position of the reference points in the image data set (claims 56, 58, and 62), modifying based on the identified position of reference points (claims 60 and 64), and modifying based on the identified position of a contour (claim 61). Each of these recitations is different than the recitations of '324. Claim 1 of '324 recites modifying according to a density image. Claims 17, 29, and 43 of '324 recite modifying the image data set such that a two-dimensional projection through the displaced image data set matches the image during the procedure. Claim 36 of '324 recites modifying according to the determined contour. Claim 48 of '324 recites producing a density image, comparing the density image during the procedure to the pre-procedural image data set, and modifying the image data set according to the density image.

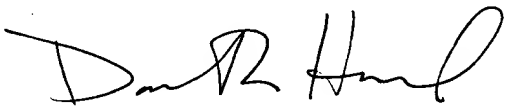
As has been shown, claims 56-67 are patentably distinct from and not obvious in view of the claims 1-55 of the '240 patent, claims 1-25 of the '415 patent, and claims 1-68 of the '324 patent application, Applicants request that the Examiner withdraw the obviousness-type double patenting rejections based on '240, '415, and '324.

CONCLUSION

It is believed that a full and complete response has been made to the Office action and, as such, places the application in condition for allowance. Such allowance is hereby respectfully requested. The fact that Applicants may not have specifically traversed any particular assertion by the Office should not be construed as indicating Applicants' agreement therewith. If the Examiner feels that a personal interview will expedite the prosecution of this application, the Examiner is invited to telephone the undersigned.

It is believed that there are no additional fees associated with this Response and Amendment A other than the payment for a Terminal Disclaimer. If the Commissioner determines there are additional fees not herein provided, the Commissioner is hereby authorized to charge any required government fees to Deposit Account No. 19-1345.

Respectfully submitted,



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